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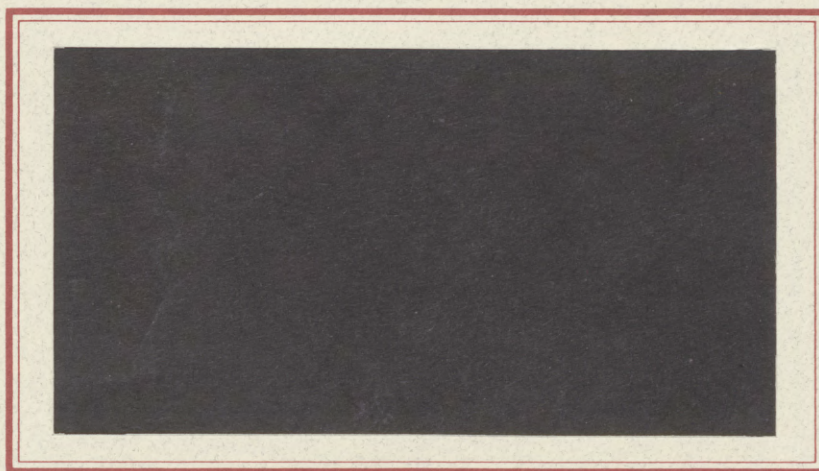
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## Development Discussion Papers *Reprint Series*

### UNDERSTANDING CHINA'S ECONOMIC PERFORMANCE

Jeffrey D. Sachs  
Wing Thye Woo

Development Discussion Paper No. 575  
March 1997



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## Understanding China's Economic Performance

Jeffrey D. Sachs and Wing Thye Woo

### Abstract

Broadly speaking, two schools of thought have emerged to interpret China's rapid growth since 1978: the experimentalist school and the convergence school. The experimentalist school attributes China's successes to the evolutionary, experimental, and incremental nature of China's reforms. Specifically, the resulting non-capitalist institutions are claimed to be successful in (a) agriculture where land is not owned by the farmers; (b) township and village enterprises (TVEs) which are owned collectively by rural communities; and (c) state owned enterprises (SOEs) where increased competition and increased wage incentive, but not privatization, have been emphasized.

The convergence school holds that China's successes are the consequences of its institutions being allowed to converge with those of non-socialist market economies, and that China's economic structure at the start of reforms is a major explanation for the rapid growth. China had a high population density heavily concentrated in low-wage agriculture, a condition that was favorable for labor-intensive export-led growth in other parts of East Asia. The convergence school also holds that China's gradualism results primarily from a lack of consensus over the proper course, with power still divided between market reformers and old-style socialists; and that the "innovative" non-capitalist institutions are responses to China's political circumstances and not to its economic circumstances.

Perhaps the best test of the two approaches is whether China's policy choices are in fact leading to institutions harmonized with normal market economies or to more distinctive innovations. In this regard, the recent policy trend has been towards institutional harmonization rather than institutional innovation, suggesting that the government accepts that the ingredients for a dynamic market economy are already well-known.

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## UNDERSTANDING CHINA'S ECONOMIC PERFORMANCE

Jeffrey D. Sachs and Wing Thyee Woo

### I. INTRODUCTION

China achieved the impressive average annual growth rate of gross domestic product of 9.5 percent between the start of its market reforms in 1978 and 1994, and rapid growth seems to have continued since then. This successful growth performance, perhaps the highest in the world during this period, has dramatically transformed China's economic structure. The proportion of the labor force engaged in agriculture dropped from 71 percent in 1978 to 54 percent in 1994, and the proportion of gross industrial output produced by state-owned enterprises (SOEs) declined from 78 percent to 34 percent in the same period. The integration of China into the world economy has been equally dramatic: trade (exports plus imports) rose from 10 percent of GNP in 1978 to 45 percent in 1994, and direct foreign investments was \$28 billion in 1993 compared to \$2 billion in 1983. Human development indicators, including life expectancy, literacy, infant mortality, per capita income, and the incidence of poverty, all show a dramatic improvement, in line with the rapid economic growth.

China's rapid growth performance presents various paradoxes, that have become the subject of heated debate within the economics profession. Why is it that a country that espouses socialist practice is among the fastest growing countries in the world, when virtually all other socialist economies have collapsed? While there is little disagreement about the role of market reforms in spurring China's rapid growth, there is strong dispute about the character of those reforms. Have they been gradual or rapid? Has the gradualism been a source of success, or a hindrance? Are the non-market aspects of China's economy, such as the large state ownership that persists till today, a source of potential destabilization in the years ahead? What lessons, if any, does China's experience offer for other countries in the transition from central planning to a market economy?

Broadly speaking, two schools of thought have emerged to interpret the Chinese experience. One school of thought gives great credit to the *evolutionary, experimental, and incremental* nature of China's reforms. In this view, China has been groping, with considerable success, towards a unique Chinese economic model. A sign of this groping is the changing characterization that China's leaders have given to the goals of markets reform, as shown in Table 1. Since 1992, China has proclaimed its goal to be a "socialist market economy with Chinese characteristics." A faster approach to reforms, according to the experimentalist school, would have led to more social conflict, instability, and poorer economic policies (because of less experimentation). Barry Naughton (1995) is a clear proponent of the experimentalist view:

Reforms have been gradual and evolutionary ... Reforming without a blueprint, neither the process nor the ultimate objective was clearly envisaged beforehand ... It can be seen, ex post, that there is substantial coherence to these different elements. Reduction of the state's monopoly led to rapid entry of new firms. Entry of new firms, combined with adoption of market prices on the margin, led to enhanced competition, and began to get state-sector managers accustomed to responding to the marketplace. Gradual price decontrol was essential. Competition eroded initially high profit margins for state firms, and induced the government, as owner of the firms, to become more concerned with profitability. The government experimented with better incentive and monitoring devices, and this improved state-sector performance..." (pp. 5-13)<sup>1</sup>

Other distinguished members of the experimentalist school include Thomas Rawski (1994b), Peter Nolan and Robert Ash (1995), and Justin Lin, Fang Cai and Zhou Li (1994).

The other school of thought holds that Chinese institutions are in fact gradually converging with those of non-socialist market economies, especially those in East Asia. We therefore use the term "convergence school" to characterize this point of view. This convergence, it is argued, is occurring despite official pronouncements to the contrary (including the stated intention to build a "socialist market economy"), as well as despite inconsistencies of many reforms in the short term. In this view, the faster the convergence, the better will be the outcomes. Gradualism, in this view, has not been a strategy so

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<sup>1</sup> Naughton thus concluded that: "Big bang transitions thus sacrifice most aspects of the virtuous cycle that characterized the Chinese reforms" (pp.320). Rawski (1994a, pp. 273) also provided a similar unintended virtuous cycle description of China's reform process.

much as a result of continuing political conflict and other difficulties inherent in setting a policy course in a country of some 1.2 billion people. Moreover, favorable outcomes have emerged not because of gradualism, but *despite* gradualism. According to the convergence school of thought, China has achieved the greatest success in precisely the areas (e.g. agriculture and coastal provinces) where market reforms have gone the furthest.

Scholars of this school, in which we include ourselves, put great stress on China's *economic structure* at the start of reforms as a major explanation of rapid growth, and of why gradualism was not a barrier to growth.<sup>2</sup> China began its high growth period with a high population density heavily concentrated in low-wage agriculture, the very conditions that were favorable for labor-intensive export-led growth in other parts of East Asia. Compared with the Soviet Union, China faced a much simpler problem of dismantling, or circumventing, the stifling effects of socialist institutions. Scholars of this view therefore concur with the succinct appraisal of the **1996 World Development Report** on the transition economies, which is worth quoting at length:

Despite the industrialization efforts of the 1950s and 1960s, China was very poor and largely rural at the start of its reforms. Agriculture employed 71 percent of the work force and was heavily taxed to support industry. Social safety nets extended only to the state sector -- about 20 percent of the population. Poor infrastructure and an emphasis on local self-sufficiency led to low regional specialization and large numbers of small and medium-sized firms. The economy was far less centrally planned and administered than the Soviet economy. Local governments had greater power and developed considerable management capacity, preparing them for a more decentralized economy. Chinese industry also received subsidies, but cross-subsidization was less pervasive [than in the Soviet Union].

Because the agricultural sector had been so heavily repressed, freeing it up had immediate payoffs. Between 1981 and 1984 agriculture grew on average by 10 percent a year, largely because the shift to family farming improved incentives. This allowed for the reallocation of surplus agricultural labor to new rural industries, which generated 100 million new jobs between 1978 and 1994 and encouraged further reform. China thus started transition largely as a peasant agrarian economy and with far greater scope for reallocating labor than Russia.

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<sup>2</sup> Members of the convergence school includes Michael Bruno (1994), Gang Fan (1990 and 1994), and Geng Xiao (forthcoming). While we clearly take sides in the debate, we strive for a balanced view of the issues throughout this essay, and avoid highlighting the extreme views of some members of the experimentalist school.



There are, to be sure, very large areas of agreement between the two approaches. Both believe in the importance of the spread of market institutions, macroeconomic stability, China's integration into the world economy, reduction of discrimination against the private sector, a public-goods role for the state, and the establishment of market-supporting institutions. The debate is about the process of reform and the endpoints of reform. Is gradualism desirable or harmful? Is China evolving towards a unique system between socialism and capitalism, or is it converging to the capitalist economic systems of East Asia?

This paper reviews the state of the debate over China's reforms, comparing the approaches of those who emphasize China's experimentalism and innovation, versus those who emphasize China's increasing harmonization of economic institutions with those of East Asian market economies.<sup>3</sup> Of course, real scholarship is more complex than this dichotomy suggests. Every scholar has a unique position, sometimes drawing arguments from both schools of thought. Nonetheless, we feel that by highlighting the differing interpretations, we can help the outside reader better understand the ongoing debates about China's reforms. In brief, we are employing the narrative device of Murrell (1995) who coined the term "the Cambridge (Mass.) Group perspective" to describe one coherent viewpoint of the transition from central planning, even though the alleged group members differ considerably among themselves on specific issues.

The experimentalist school proposes four basic economic propositions concerning China's reforms:

- (E.1) Gradualism in market reforms has been key to China's rapid growth;
- (E.2) China's gradualist strategy is transferable to other economies in transition from central planning;
- (E.3) China's experiments in non-capitalist institutions are proving to be successful in (a) agriculture; (b) township and village enterprises (TVEs) in the rural areas; (c) state owned enterprises (SOEs);

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<sup>3</sup> As our primary purpose is to assess an ongoing debate on the nature of China's economic growth, and not to survey all the significant contributions to the study of the Chinese economy, readers should consult Perkins (1988 and 1994) for general surveys; Lardy (1992 and 1994) for international trade; Huang (forthcoming) for agriculture; Ren (forthcoming) for PPP-based comparisons of production structure; Wong, Heady and Woo (1995) for fiscal system; Yi (1994) for financial sector; and World Bank (1992) for the poverty situation.

(E.4) China is evolving towards a unique set of economic institutions, as a result of experimentalism in policy design.

The convergence school counters with four alternative theses:

(H.1) China's rapid growth has come *despite* gradualism, in areas of the economy characterized by radical rather than gradual reforms. China's ability to grow rapidly *despite* gradual reforms reflects China's particular economic structure;

(H.2) China's gradualist strategy is not transferable to Eastern Europe and the former Soviet Union (hereafter, EEFSU), because of fundamental differences in economic structure;

(H.3) China's experiments in non-capitalist institutions are proving to be unsuccessful in (a) agriculture; (b) rural industry; (c) state industry, and are therefore in need of further reform towards more typical capitalist institutions;

(H.4) China is gradually harmonizing its economic institutions with those of East Asian market economies.

In terms of political analysis, there are also important differences that should be mentioned. The experimentalist school tends to see China's gradualism as a reflection of a deliberate (and desirable) experimental approach of China's political leadership. The convergence school takes a more sceptical view. Some gradualism results simply from a lack of consensus over the proper course, with power still divided between market reformers and old-style socialists. In addition, gradualism reflects vested interests of the Chinese leadership, which fears more radical measures not simply in regard to economic outcomes but for the risks they might pose to political control.

A great deal of the debate regarding China actually surrounds the claims for and against the "shock therapy" or "big bang" reforms in Eastern Europe (we will use the two terms interchangeably). After several post-communist Eastern European economies embarked on radical economic reforms at the start of the 1990s, an intense debate has raged over the relative merits of gradualist versus big bang reforms. Therefore, before proceeding to the Chinese experience itself, it is useful to clarify the real content of big bang reforms. In our usage, big bang reforms include: rapid and comprehensive price and trade liberalization, macroeconomic stabilization, alignment of the official exchange rate to the market rate, ending legal discrimination against all types of non-state enterprises, and an early *commitment* to

mass privatization of state-owned enterprises (SOEs), recognizing that actual privatization will take several years in practice.

The avowed long-term aim of big-bang reforms is to create a "normal" capitalist economy, based on private ownership, commercial law, and substantially open trade. In the case of Eastern Europe, normalcy is typically defined as the economic institutions of the mixed capitalist economies of Western Europe. In the philosophical approach of "big bang" advocates, the key point is that little institutional experimentation is needed or desired. *The long-run goals of institutional change are clear, and are found in the economic models of existing market-based economies.*

By these standards, the only transition countries to have actually implemented a big-bang reform are the Czech and Slovak Republics, Estonia, Poland, Slovenia, and arguably Hungary.<sup>4</sup> This is borne out by indexes of reforms created by the World Bank (1996a) and the European Bank for Reconstruction and Development (1996), which aim to measure the extent and speed of market reforms in the transition economies of the EEFSU. These, then, are the appropriate counterparts for comparing "gradualism" a la China with "big bang" in Eastern Europe. Russia does not offer an appropriate comparison: the unending struggle in Russia between reformers and conservatives has produced the confusing combination of big-bang *rhetoric* and mostly *gradualist* practice: rapid price liberalization in 1992 and rapid mass privatization of state industry in 1993, but vacillating macroeconomic policies and the absence of extensive enterprise and fiscal reforms as late as 1996.

We summarize the differences in outlook across the two schools of thought in Table 2. Our aim in this paper is to examine the contrasting interpretations of the China's rapid economic growth by looking at the key questions that divide the two approaches:

(1) Is China's rapid growth the result of gradualist policies?

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<sup>4</sup> Hungary is far advanced as a private-ownership, market-based economy. It was already farthest along in market reforms before 1989, but then moved fairly gradually in many areas of reform after 1989.



- (2) Would Chinese-style gradualism have improved performance in the EEFSU? Would big bang reforms have improved the performance in China?
- (3) Have China's institutional reforms succeeded in agriculture, state enterprises, and rural industry?
- (4) In the future, will China's reforms be guided by institutional experimentation and innovation, or rather by harmonization with East Asian economies?.

These questions are taken up as follows. Section II addresses the first and second question by discussing the main sources of growth in China, and offering some comparisons of experiences in China and EEFSU. Sections III and IV address the third question by describing the responses of the SOE sector and the rural sector (both agriculture and the TVEs), to China's partial reforms. The fourth question is necessarily most speculative. In Section V we assess the prospects for future reforms in China, mainly by examining institutional trends in the most recent years.

## II. THE SOURCES OF CHINA'S ECONOMIC GROWTH

In this section we discuss alternative explanations of China's rapid growth since 1978. Before turning to the evidence, however, it is important to be clear about the timing and scope of China's reforms to put the alternative viewpoints in proper perspective. China's reform strategy after 1978 has best been described (by both schools of thought) as a dual-track approach: the establishment of a market track in parallel to the pre-existing plan track, with the market track (generally) increasing in importance over time. The dual-track approach pervades almost every aspect of policy-making: sectoral reform, price deregulation, enterprise restructuring, regional development, trade promotion, foreign exchange management, central-local fiscal arrangements and domestic currency issuance.

The dual-track approach started at the end of 1978 with rapid and comprehensive liberalization of the agricultural sector, but limited liberalization of the other sectors. The most notable aspects of the agricultural reform were the elimination of the commune-brigade system of collective farming, replaced by the leasing of the former commune land to the individual peasant households. These households

remained responsible for the delivery of a portion of the output to the state according to plan, but were also allowed to engage in free-market transactions for production above the state procurement quota. The impressive growth of the agricultural sector upon marketization led to broader liberalization of the secondary (industrial) and tertiary (service) sectors in the 1980s, with important reforms beginning in 1984. The state-owned enterprises (SOEs), located mainly in urban areas, were liberalized by devolving incrementally to them decision-making power on production, marketing, and investment.<sup>5</sup>

The agricultural reforms at the end of the 1970s rapidly placed a substantial proportion of the economy and workforce effectively outside of the state apparatus. Agriculture accounted for almost 40 percent of GDP at the end of the 1970s,<sup>6</sup> but, more importantly, no less than 70 percent of the economically active population were peasant farmers! While peasants had to continue to deliver a part of their output as a quota, they operated *on the margin* in a relatively free market environment. Not only was the quota effectively a tax on private production, it was essentially a lump-sum (i.e. infra-marginal) tax, so that households effectively faced market prices for many key output and input decisions. The one major area that remained in state control was land distribution: while peasants received the use-rights of land, the typical leases were for 15 years or shorter, so that long-term improvements in the land (e.g. irrigation projects and other capital-intensive projects) were still problematical from the point of view of household incentives.

The growth of the non-state sector quickly spread beyond the abolition of the communes themselves. The steady relaxation of the regulations governing the registration and supervision of non-state enterprises since 1984 has caused the non-state sector, particularly in the form of community-owned enterprises (COEs) located in the rural areas, to grow explosively. It must be emphasized,

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<sup>5</sup> In 1993, the proportion of agricultural output value and of industrial output value set by the state plan had dropped to about 5%.

<sup>6</sup> Measured using 1990 relative prices because relative prices in 1978 was regulated to favor industrial products.

however, that the SOE sector is not withering away, its share of total employment was 18 percent in 1978 and 1993 - there were 35 million more SOE workers in 1993 than in 1978.<sup>7</sup>

Dual track regional development was adopted as the means to integrate China gradually into the world trading and financial systems. In 1980, four southern coastal cities (Shantou, Shenzhen, Xiamen and Zhuhai) were designated "Special Economic Zones" (SEZs). SEZs were given autonomy to experiment with new institutions, mainly related to the international economy, like approval of foreign-funded enterprises and discretion over the collection of many taxes. SOEs operating within the SEZs were exempted from many parts of the central plan, labor regulations and the tax code. The resulting phenomenal growth of the SEZs spurred other regions to demand and receive special privileges as well.<sup>8</sup> The rise in the export-GDP ratio from 4 percent in 1978 to 23 percent in 1994 shows that export-processing has become a major component of China's industrialization strategy.<sup>9</sup>

Note that several of the reforms -- dismantling of the communes and replacement by household farm plots, liberalization of the TVEs, and opening of the coastal regions -- were radical measures introduced quite rapidly at the end of the 1970s and early 1980s. In these areas, there is little to distinguish the *pace* of reform in China with that in Eastern Europe. The dismantling of the communes in 1979 covered approximately 790 million people, or 81 percent of the population, and was effectively achieved in a brief period of 30 months. Similarly, the liberalization of TVEs covered roughly the same

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<sup>7</sup> An SOE is a nationally-owned enterprise in the sense that the central government is the ultimate authority for the operations of the enterprise and the disposition its assets, even though the SOE in most cases has been assigned to the provincial or county government for supervision and management. The non-state enterprises are those enterprises in which the central government lacks final authority over the disposition of assets. The non-state sector consists of community-owned enterprises, co-operatives, individual-owned enterprises, private corporations, and foreign joint-ventures.

<sup>8</sup> The result is a plethora of designated cities that have various subsets of the privileges granted to the SEZs: there are now 14 open coastal cities, 20 economic and technological development districts and 72 comprehensive reform experimenting cities. Hainan province became the fifth SEZ in 1988.

<sup>9</sup> As noted by a referee, the total export data are collected in US\$ and then converted to yuan with the official exchange rate although a multiple exchange rate system was usually in force. Even if we assume that the black market rate in 1978 was twice the official rate, hence doubling the 1978 export-GDP ratio to 9 percent, the increase in the export-GDP ratio between 1978 and 1994 is still very impressive.



potential population (who were now free to leave agricultural activities), and also occurred in a brief time span. The opening of the Chinese economy proceeded more gradually, but the designation of special economic zones and open cities between 1979 and 1984 rapidly brought millions of Chinese workers into an export-oriented labor market.

Chinese reforms were more gradualist or incremental in several other ways, however. First, in the rural areas, leasing of farm land rather than private ownership was made the rule. Second, with few exceptions, the TVEs were to be owned by local government, rather than purely private owners. Third, the opening of the economy was restricted to particular geographical regions, and was based mostly on free trade for *export* firms (i.e. access of these firms to world markets for imported inputs, and for the sale of output), rather than free trade for imports more generally. Fourth, and most important, the state enterprises were not privatized, nor was any long-term goal of privatization enunciated in the course of the reforms (at least until very recently, as discussed later). Instead, the SOEs were the subject of various attempts at introducing market incentives for improved management and productivity.

#### Sources of Growth in the Reform Period

There are several aspects of China's economic growth performance since 1978 that are not in dispute. First, the non-state sector (including household agriculture, rural industry, private enterprises, urban collectives, and joint ventures) has grown much faster than the state sector. Therefore, the share of state-owned enterprises in aggregate production has declined markedly. In industry, the share of SOE production fell from 78 percent in 1978 to 69 percent in 1984, and then to 34 percent in 1994.<sup>10</sup> Therefore, all observers agree that China is gradually "growing out of the plan." Second, agriculture provided the major impetus to growth during 1978-84, but played a much lesser role after 1984. As a summary statement, we can say that agriculture experienced a one-time burst of productivity growth in

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<sup>10</sup> Strictly speaking, data before 1984 are not comparable because prior to 1984 much of the industrial output by the communes were categorized as agricultural output.

the first few years after the reversion to the household production system, but then slowed markedly after 1984 (we return to this issue below).

Table 3 shows the growth rates of various sub-sectors of the economy during the period 1978-94, and for subperiods 1979-84 and 1985-93. The non-state sector includes agriculture, collectively owned industrial enterprises (industrial COEs), individually owned industrial enterprises, "other ownership forms" industrial enterprises, and part of the construction and tertiary sectors. Note that collectively owned industrial enterprises include both urban COEs and rural COEs, with rural COEs typically labelled as township and village enterprises (TVEs). We see clearly that within industry, the growth of the non-state sector significantly outpaced the growth of the state sector. Table 4 shows the contribution of each subsector to overall growth. Note that we cannot allocate construction and services to the state versus non-state sectors. If we assume, conservatively, that the non-state enterprises account for half of the growth of construction and services (the share is likely to be even higher), then the non-SOE sectors account for more than 70 percent of total growth during 1979-94. This is despite the fact that over 75 percent of all banking credit has been allocated to the state-owned sector.<sup>11</sup>

A third undisputed point is that exports have been a leading sector in China's growth, consistent with the patterns of export-led growth seen elsewhere in East Asia. Total exports rose from US\$10 billion in 1978 to US\$149 billion in 1995. A sharply rising portion of exports comes from the non-state sector, including TVEs, private firms, and foreign investments (sometimes under contracts to, or in cooperation with, state enterprises). Some basic facts on exports are shown in Table 5.

Virtually all analysts see China's market reforms as unleashing the rapid growth since 1978. The evolutionary-school advocates see gradualism (or incrementalism) as having played a constructive role in China's growth for two main reasons. First, it is argued that China avoided the political and economic strife associated with "shock therapy" reforms. Second, it is argued that incrementalism

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<sup>11</sup> The qualitative nature of the conclusions drawn here from Tables 3 and 4 is unchanged when we take into account the underdeflation of industrial output from the non-state sector; Woo (1996).

allowed China to find valuable institutions on an experimental -- usually localized -- basis, and then to proliferate the success stories to the whole of the Chinese economy. In this "non-dogmatic way," many successful innovations, such as the Township and Village Enterprises, the Household Responsibility System of land leaseholds, and the Special Economic Zones were discovered and spread.

The convergence school sees things differently. First, the sources of growth were precisely in the mainly *non-state* sectors of the economy -- agriculture first, followed by TVEs, and coastal export-oriented enterprises. Since reforms unleashed growth, even more reform would have unleashed faster growth. Second, the amount of dislocation involved in "shock therapy" is greatly exaggerated, especially in an economy of China's structure: overwhelmingly agrarian in the distribution of the workforce. Third, the partial character of the reforms in several areas is merely delaying serious problems for the future.

The problem for both points of view is the absence of a complete theoretical or empirical framework for proving one point of view or another. Both schools of thought must, to some extent, grab at slivers of information. The experimentalist perspective is probably correct to stress that China's two-track approach reduced the number of short-term losers resulting from market liberalization. Most importantly, the two-track approach allowed the growth of new firms in China *without forcing layoffs in existing state enterprises*. In terms of overall proportions of the workforce, non-state, non-agricultural employment increased at the expense of the agricultural workforce, not at the expense of the state enterprise workforce. Indeed, state enterprise workers until the most recent years were protected in their subsidized jobs by virtually ironclad job guarantees (the so-called "iron rice bowl"), and state enterprise employment actually rose by 35 million in the 1978-93 period.

Two other propositions of the experimentalist school are much more doubtful, however. The first is that similar gradualism -- especially continued guarantees of employment in the state enterprises -- would have been possible in EEFSU. While many China analysts have rebuked the EEFSU economies for undertaking the dislocations of "shock therapy," mainly by allowing major layoffs in the state enterprise sector, these analysts have given insufficient weight to the differing economic structures in the



two regions. In the former Soviet Union, more than 85 percent of the workforce was in non-agricultural state enterprises, compared with around 18 percent of the workforce in China (Table 6). Perhaps 99 percent of the labor force of the former Soviet Union (*including* the 14 percent of the labor force in state farms and collective farms) were entitled to an "iron rice bowl" under the Soviet system as of 1985 (see Cook, 1993, for extensive documentation of worker protections in the Soviet Union). Very high proportions of workers in the Eastern European economies enjoyed similar guarantees.

Would it have been possible to engineer a two-track approach when 90 percent of the workforce was in the first (i.e. state) track, compared with less than 20 percent in the Chinese case? Our answer is "no," and the best evidence is that gradualism was in fact tried. The Chinese two-track approach was indeed the *favoured* model of communist reformers such as Mikhail Gorbachev in the Soviet Union, Janos Kadar in Hungary, and Wojciech Jaruzelski in Poland in the mid-1980s. The model had obvious appeal. It seemed to offer the prospect of faster growth with minimal social costs or political disruption.

In each case, the Chinese model failed in EEFSU, for two main reasons. First, as in China, tax collections from the state sector declined after the operational autonomy of SOEs was increased, a consistently observed pattern that result in part from the fact that state enterprises can easily use the new discretion to skim state income and to hide state profits, and in part from the fact that non-state enterprises provide competition for the state sector. The decline in tax revenues was much harder to manage in the EEFSU, since huge social expenditure commitments and subsidies to preserve guaranteed jobs in the state sector -- in both cases covering nearly 100 percent of the population -- could not be financed out of the falling tax revenues.

Second, in both China and EEFSU, most state-sector workers did not voluntarily leave their "iron rice bowls" after legalization of the non-state sector. The non-state sector in China grew up as a result of new entrants to the labor force and workers leaving agricultural employment to take jobs in industrial or service sectors. In EEFSU, there was no such large pool of non-state workers to join the new enterprises. Labor force growth was essentially nil, and the non-state sector was virtually non-

existent. Even agricultural workers on the state farms and the collective farms in EEFSU had their own "iron rice bowls," so that unlike Chinese peasants, they were mostly unwilling to leave their heavily subsidized jobs.

Table 6 makes clear that the Soviet Union, and Soviet-type economies in Eastern Europe, had no reserve of labor outside of the SOE sector that could provide the engine of growth for a new non-state sector. The growth of the non-state sector required the decline of the state sector almost as a matter of accounting, since the state sector dominated the economy. Only by ending the subsidization of the state sector was it possible to free resources for the new non-state sectors in the economy.<sup>12</sup> Two-track gradualism could not work in that context.<sup>13</sup>

In short, gradual liberalization in the EEFSU unleashed financial destabilization, but *without* promoting the growth of a new private sector because the state-enterprise sector was not cut in the gradualist phase. Conversely, recent studies have shown that *collapse* of production in the EEFSU economies after 1989 cannot plausibly be related to the speed of reforms. Rather, output declined

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<sup>12</sup> Naughton (1996) argues against this point of view by claiming that the whole state sector could not have been subsidized, since when every sector is subsidized then no sector actually receives a net subsidy. But it is quite possible that the entire state sector is subsidized relative to the (potential) non-state sector, if the state sector receives subsidies while non-state firms do not. In this context, only explicit cuts in state subsidies would permit the growth of the non-state sector. In a simple and realistic example, suppose that subsidies are paid for through the inflation tax. The state sector receives subsidies; the non-state sector does not. While it is true that net subsidies -- defined as subsidies minus the inflation tax -- to the state sector are zero, the state sector is still subsidized relative to the non-state sector (which is taxed, on net, by inflation).

<sup>13</sup> In Sachs and Woo (1994), we summarized the argument as follows: "Differing performance primarily reflects different economic structures prior to reform: China was a peasant agricultural society, EEFSU was urban and overindustrialized ... China faced the classic problem of normal economic development, the transfer of workers from low productivity agriculture to higher productivity industry. In EEFSU, the problem is structural adjustment: cutting employment in inefficient and subsidized industry to allow new jobs in efficient industry and services."

Several articles have challenged our depiction of China as a predominantly agricultural economy in 1978 and of post-1978 growth as mainly normal economic development, e.g. Lin, Cai and Li (1994). They interpreted China in 1978 as an over-industrialized economy because industry accounted for 48 percent of GDP in 1978 and 47 percent in 1994 - no sign of industrial growth being higher than aggregate output growth. In our opinion, their interpretation is misguided. Most importantly, the argument over flows of workers and political economy of reform rests on the allocation of labor, not GDP. By this count, there is no doubt (nor disagreement) that China was substantially agrarian and rural. Second, official estimates of the GDP share of industry greatly inflate the industrial share, since industrial prices were artificially inflated relative to agricultural prices. Therefore, one step of reforms involved the step-by-step freeing of repressed agricultural prices. For example, if we use constant 1990 prices to weight the various sectors of the economy, the industry share of GDP was 37 percent in 1978 and 51 percent in 1994.

because of vastly overextended heavy industry. When cheap energy sources from the Soviet Union ended -- both because of falling energy production in the Soviet Union and rising prices charged by the Soviet Union (and then Russia) to the post-Soviet economies -- and when the Soviet military-industrial sector declined, every economy in EEFSU faced a sharp industrial contraction. But it was precisely the fast-reforming countries that first and most vigorously reversed the industrial declines through the growth of new industrial and service sector activities.

A recent study by Aslund, Boone and Johnson (1996) of 22 EEFSU countries and Mongolia found that the magnitude of a country's decline in output after 1990 was *unrelated* to the speed and comprehensiveness of the reform package, and that *recovery* began sooner and private sector development was more dynamic in the "big bang" countries. Similarly, we have also regressed the average growth rates of the EEFSU countries between 1989 and 1995, on the logarithm of their income in 1989, and its rating on a Reform Index constructed by the European Bank of Reconstruction and Development (1996), and found that faster reform was associated with higher, not lower, growth (t-statistics in parentheses):

$$\text{Annual Growth Rate} = -0.024 - 0.029 \cdot \log(\text{Initial Income}) + 0.007 \cdot (\text{Reform Index})$$

$$(-0.13) \quad (-1.07) \quad (3.43)$$

$$R^2=0.40; \text{Root MSE}=0.05$$

Each 1 point on the reform scale (which varies from a minimum of 10 in Turkmenistan to a maximum of 33 in the Czech Republic and Hungary) was associated with 0.7 percentage points faster annual growth. Russia is rated at 23 in the rankings, so that the shortfall in Russia's reforms from the leaders is associated with lower annual growth during the interval of 7 percentage points (10 x 0.7).

Suppose that China had in fact pursued more rapid liberalization of the economy, including a harder budget constraint on state enterprises and a faster unification of product markets and the market for foreign exchange. How much larger would have been the dislocations in the economy? While we cannot answer this crucial question with any precision, it is instructive to look next door at the case of



Vietnam. During 1985-88, Vietnam implemented a gradual reform strategy that did not address serious macroeconomic imbalances. The program failed: inflation and import of rice accelerated while growth performance remained unchanged. In 1989, Vietnam enacted an Eastern-European style "big bang," including across-the-board price liberalization, a 450 percent devaluation to unify the exchange market, and a tight credit policy. The collective farms were returned to family farms with long-term leases. Growth accelerated, inflation ended, agricultural productivity soared (turning Vietnam into a rice exporter in 1989), and small, non-state enterprises proliferated, Riedel and Comer (1996). The "big bang" did not cause an output decline in Vietnam as in Eastern Europe. The difference in outcome lies in Vietnam's economic structure in 1989, in which 77 percent of the labor force was engaged in agricultural activities. As an overwhelmingly agricultural economy, Vietnam enjoyed the same gains as China from liberalization of agricultural, and the flow of peasants to the non-agricultural sector. Strong market-oriented reforms (macroeconomic stabilization and liberalization), not gradualism per se, tended to accelerate this shift.

#### China's Rapid Growth: Innovative Institutions or East Asian Pattern?

Another important claim of the experimentalist school is that China's successful growth is due to institutional innovations in China, which have given China a remarkable capacity for rapid growth. In one sense, this claim is surely true. Through the development of the household responsibility system, township and village enterprises, and special economic zones in the coastal areas, China found a way to reconcile fast growth with its continuing political commitment to state ownership (if not central planning). The relevant analytical question, however, is whether such innovative institutions are really the *source* of rapid growth, or whether they are simply imperfect substitutes for normal market institutions that would have provided China with rapid growth at less cost in terms of long-run distortions.

We will analyze these underlying institutions in later sections. Here, we want to make the point that China's broad growth performance is in line with the performance of other East Asian economies. Virtually *every market economy* in East Asia has grown very rapidly in the past thirty years, based on a strategy of rapid export growth of labor-intensive manufactures. During 1986-94, China averaged an annual per capita growth of around 5.6 to 6.8 percent in PPP-adjusted GDP. Other East Asian countries also showed remarkably high, or even higher, rates of annual per capita growth in PPP-adjusted GDP over the longer period of 1965-90, including: Hong Kong, 5.8; Korea, 7.4; Singapore, 7.4; Taiwan, 6.3; Indonesia, 4.7; Malaysia, 4.5; and Thailand, 4.6.<sup>14</sup> As shown in Lee, Radelet, and Sachs (forthcoming), the East Asian economies have shared several fundamental characteristics that have allowed them to achieve historically unprecedented rates of growth:

- (1) a low initial per capita income level, giving ample scope for rapid catching up;
- (2) favorable physical access to international sea lanes;
- (3) export orientation, through favorable tax and regulatory conditions for exporters (e.g. duty-free access to imported inputs and tax holidays for foreign investors in export sectors);
- (4) a high proportion of the labor force in agriculture or other low-wage activities, providing an elastic labor force of labor-intensive manufactures;<sup>15</sup>
- (5) favorable demographics (including a low old-age dependency ratio), supporting a high national saving rate;
- (6) fiscal policies supporting high national savings (including high government saving, and the absence of state pension systems tending to crowd out private saving).

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<sup>14</sup> Growth rate for China is calculated from tables 5-1 and 5-3 in Ren (forthcoming), and the other growth rates are calculated from Penn Work Tables V.5.6.

<sup>15</sup> Minami (1973) and Paauw and Fei (1973), among others, emphasize the importance of labor migration from agriculture to industry in the course of rapid East Asian growth. Recent growth accounting studies by Woo (1996) and the World Bank (1996) attribute at least one percentage point per year of growth to the direct effect of reallocating labor from low-productivity agriculture to higher productivity industry and services. State Councillor Chen Junsheng reported that in 1995, seventeen years since reforms began, there were 120 million surplus rural workers out of a total rural labor force of 440 million (*China Daily*, "Rural laborers need jobs," February 9, 1995). Chen and Hu (1993) surveys the various estimates of surplus labor, and reports an estimate that 35 percent of rural labor in 1981 was surplus labor.

In the cross-country empirical growth model for the years 1965-90 estimated in Lee, Radelet, and Sachs (forthcoming), China's per capita growth rate of 5.1 percent per year during 1965-90 (in PPP-adjusted GDP) is almost perfectly explained by the cross-country explanatory variables, with the various regression estimates predicting a growth rate of around 5 percent per year during 1965-90.<sup>16</sup> In other words, China fits the international regression line, as if it were a "normal" country rather than a transition economy. The message seems to be that China's liberalization of the non-state sector (in agriculture, rural industry, and coastal industry and services) afforded China the opportunity to grow at *typical* East Asian growth rates despite the absence of the full-fledged market institutions as in the other countries. China's novel institutions evidently were not the *source* of rapid growth, but neither were they a definitive barrier.

### III. THE SOE SECTOR UNDER REFORM

China's reform of its state enterprise sector has been undoubtedly incremental and experimental. Reforms have typically taken the form of new practices being allowed for a small number of SOEs, and then being more widely adopted over time. Furthermore, before full coverage was reached, another set of new measures would be implemented on an experimental scale which might then in turn be expanded in scope. So, at most points in time, there may be the preponderance but not exclusive existence of a particular reform configuration.

*Market socialism* has been the guiding force behind SOE reform, and this explains why the general reform direction has been the steady expansion of the operational autonomy of the SOEs with almost no serious discussions (until very recently) of privatization as a reform option. From 1979 onward, managers received in piece-meal fashion the rights to make decisions about bonuses, how and

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<sup>16</sup> Of course, precision must be taken with a grain of salt, since China's actual growth rate is subject to severe measurement problems. In the regression analysis, Lee, Radelet, and Sachs (1996) rely on the growth estimates in Perkins and Sabin (1996).

what to produce, pricing, marketing, and investment. In parallel with this expansion of managerial autonomy was the steady decontrol of prices; with the prices of final goods being gradually liberalized since 1979, and the prices of inputs liberalized via the dual-track system since February 1985.

The fiscal relationship between the SOE and the state has exhibited bigger twists and turns, however. Before the reform period, Chinese state enterprises operated under the state plan with little autonomy, and the state did little to create a hard-budget constraint<sup>17</sup> because there was no need to do so. By 1983, a de facto contract responsibility system (CRS) had emerged. An SOE would sign an individually-negotiated contract with its supervising agency specifying the annual amount of revenue (tax-cum-profit) to be turned over to the state, thereby supposedly giving the firm the incentive to maximize its financial surplus. However, SOEs remained subject to a soft-budget constraint, being absolved of the responsibility of paying the contracted amount if the financial outcome was poor. As a result, the state found the decline in revenue expressed as a percent of GDP to be much larger than anticipated.

In 1983, the state began to replace the CRS with an income tax (the ligaishui reform). This income tax system was short-lived however because it not only failed to arrest the decline in revenue-GDP ratio, but its positive marginal tax rate was also perceived to be a damper on economic growth. By 1986, SOEs were reverting to an expanded CRS. The CRS was again replaced by an income tax in January 1994.

None of the preceding SOE reforms fundamentally altered the ownership structure of the enterprises, though they did significantly affect the control structure. A fundamental change in official philosophy about SOE reform occurred at the end of 1993 when the Central Committee of CPC identified the ambiguity of property rights to be an important cause of the unsatisfactory performance of SOEs, and decided that:

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<sup>17</sup> A hard-budget environment is when the firm has autonomous responsibility for its own financial results.

Large and medium-sized State-owned enterprises are the mainstay of the national economy; ... [for them,] it is useful to experiment with the corporate system ... As for the small State-owned enterprises, the management of some can be contracted out or leased; others can be shifted to the partnership system in the form of stock sharing, or sold to collectives and individuals.<sup>18</sup>

By the end of 1995, the above decision had been formulated into the slogan of "holding on to the large SOEs, and freeing the small SOEs (zhua da, fang xiao)."

The current debate on SOE reform in China is over the definition of "large", and the optimal form of "letting go," or privatization, of the "small" SOEs.

Assessments of the above decentralizing reforms on SOE performance have differed widely. Adherents of the experimentalist school accord great success to the state enterprise reforms in China, while adherents of the convergence school tend to see chronic failures in SOE reforms. On the experimentalist side, Jefferson and Rawski (1994, pp.58) have concluded that:

... reform has pushed China's state-owned enterprises in the direction of "intensive" growth based on higher productivity rather than expanded resource consumption ..., we observe a consistent picture of improved results - higher output, growing exports, rising total factor productivity, and increased innovative effort - against a background of gains in static and dynamic efficiency that reflect the growing impact of market forces.

However, China's own leadership has been much more pessimistic. Vice-Premier for Economy, Zhu Rongji, announced in 1996, that the SOE sector is deeply plagued with problems. According to the Vice Premier:

The current problems of SOEs are: excessive investments in fixed assets with very low return rates, resulting in the sinking of large amounts of capital; low sales-to-production ratio giving rise to mounting inventories. The end result is that the state has to inject an increasing amount of working capital through the banking sector into the state enterprises.<sup>19</sup>

Vice-Premier Zhu's pessimistic verdict represents the dominant view of Chinese economists and officials throughout the reform period - a view shared by foreign economists of the convergence school.

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<sup>18</sup> "Decision of the CPC Central Committee on issues concerning the establishment of a socialist market economic structure," China Daily, Supplement, November 17, 1993.

<sup>19</sup> "Guo you qiye sheng hua gaige ke burong huan," (No time shall be lost in further reforming state owned enterprises), speech at the 4th meeting of the 8th People's Congress, People's Daily, Overseas Edition, March 11, 1996.



According to Naughton (1995), though, who continues to defend the results of the state enterprise reforms, this negative assessment is the result of ignorance on the part of Chinese observers and of ideological prejudice on the part of some foreign observers:

Focusing on profitability, [state bureaucrats] see the erosion in state sector profits as a profound crisis of the state sector. Without good measures of total factor productivity, they conclude that state sector performance is deteriorating. Foreign observers, hearing the cries of alarm from the state planners, shake their heads knowingly as they perceive still further evidence that state ownership is intrinsically inefficient. Neither party sees that the difficulties are the result of an ultimately beneficial transition to a different type of economy, and are entirely compatible with gradually improving efficiency.

It is clear that opinions about SOE performance are strongly split and the facts are hotly disputed. The main propositions of the experimentalist school vis-a-vis SOE performance are that:

- (1) China's state enterprise reforms have improved productivity growth (particularly total factor productivity growth) in the SOEs;
- (2) China's state enterprise reforms have improved the sectoral allocation of production and investment; and
- (3) China may be able to avoid privatization of the SOEs in the future.

The convergence school, on the other hand, holds that:

- (1) China's state enterprise reforms have failed to improve productivity performance;
- (2) China's state enterprise reforms have failed to improve the financial performance of the SOEs;
- (3) China's state enterprise reforms have failed to improve the sectoral allocation of production and investment; and
- (4) China will need to pursue a strategy of privatization in the future, both for purposes of fiscal balance and allocative efficiency.

#### Has TFP Growth Accelerated in the SOEs?

The productivity performance of the SOEs remains a highly contentious issue. Some see improvements, while other researchers do not. Before reviewing the debate, however, it is worthwhile to remember two important points of agreement: (1) SOE productivity growth has been lower than non-state productivity growth; and (2) improvements in TFP, if any, have been modest in magnitude.

Nonetheless, a debate has raged as to whether TFP growth in the SOEs has in fact risen in the course of China's reforms.

The first generation of empirical studies were generally of the opinion that the post-1978 SOE reforms did not raise TFP growth.<sup>20</sup> The picture has become cloudier since then with roughly three sets of results. The first set found "high" TFP growth rates, e.g. Jefferson, Rawski and Zheng, JRZ (1992), and Groves, Hong, McMillan, and Naughton, GHMN (1995a).<sup>21</sup> The second set found little or deteriorating technical changes, e.g. Woo, Hai, Jin and Fan, WHJF (1994).<sup>22</sup> The third set found results in between the first two sets, often with a slowing down of TFP growth after 1985.<sup>23</sup>

The wide range of TFP estimates in the literature could be caused by a wide array of factors which include the choice of data set (e.g. geographical and sectoral representation, time period)<sup>24</sup>, the specification of the production function (e.g. Cobb-Douglas, Griliches-type), the assumption of technical change (e.g. Hicks-neutral, labor-augmenting), the estimation method (e.g. OLS, stochastic frontier), the selection of deflators for output and inputs, and ad hoc exclusion of observations. Another serious problem is that all the studies we know estimate TFP by using the size of the capital stock and the labor

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<sup>20</sup> For example, Dernburger (1988), Lardy (1989), and Rawski (1986).

<sup>21</sup> JRZ (1992) found that annual TFP growth averaged 2.4 percent in the 1980-88 period; and JRZ (1996) revised it to 2.5 percent for the 1980-92 period. GHMN (1995a) estimated annual TFP growth in the 1980-89 period to range from 2.3 percent in the food products sector to 7.9 percent in the electronic sector.

<sup>22</sup> Huang and Meng (1995) found the annual TFP growth rate to be negative 5 percent in the 1986-90 period, and the number of skilled workers in SOEs to be excessive. WHJF (1994) found TFP growth to be zero in the 1984-88 period; and Bouin (forthcoming) found annual TFP growth to range from -0.7 to 0.2 percent in the 1989-93 period.

<sup>23</sup> Wu and Wu (1994) found TFP to increase in the 1979-84 period but to be stagnant in the 1985-92 period. Perkins, Zheng and Cao (1993) established that there were significant regional variations in TFP growth: for the Special Economic Zone of Xiamen, the TFP index went from 100 in 1980 to 139 in 1985 and then to 131 in 1988; for Shanghai, it went from 100 in 1985 to 99 in 1988; and, for Beijing, it went from steadily down from 100 in 1983 to 74 in 1988. The overall national picture was that the TFP index rose from 100 in 1981 to 104 in 1985 and then declined steadily to 81 in 1989. Using samples for medium and large state-owned construction enterprises, Parker (1995 and forthcoming) found annual TFP growth to average 1 percent in the 1985-1991 period but to decline significantly over time.

<sup>24</sup> Because most samples are collected through contract with the State Statistical Bureau, the absence of independent monitoring raises the possibility of Potemkin datasets.

force instead of using the actual hours of equipment operation and the actual labor hours spent in production. This mis-measurement is particularly serious because energy shortage has varied according to time period, region and firm ownership. So an increase in the availability of energy could increase TFP estimates that were derived from stock rather than flow data of capital and labor.

In the debate between WHJF and JRZ debate on their different results, the main focus has come to rest on two inter-related issues: the validity of the output and input deflators used in the studies, and the degree to which the production structure of China's industrial SOEs differ from those of industrial enterprises in other countries. The attention on these two issues arose when WHJF (1994) found that the implicit value added deflator (VAD) constructed from the nominal value added series and the real value added series in JRZ (1992) declined secularly in the 1980-86 period in contrast to the secularly rising consumer price index (CPI). WHJF considered this opposite trend movement in CPI and JRZ's VAD to be "anomalous" because it was internationally unprecedented. WHFJ argued that the apparent rise in TFP in the SOEs was due to an overstatement of value added caused by two biases, the *overstatement of gross output* and the *understatement of the intermediate inputs* used in production. JRZ (1996) defended their deflators for gross output and intermediate inputs, and attributed the declining VAD to the *unusual production structure* of China's manufacturing sector.<sup>25</sup>

Though the debate over TFP performance continues, the broader conclusion that SOE productivity performance lags behind non-state productivity performance continues to win much wider assent. As Andrew Walder (1995b) notes of the TFP debate, the "dispute so far appears inconclusive,

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<sup>25</sup> Specifically, JRZ (1996) claimed that China's manufacturing sector had an usually low gross value added (GVA) to gross output value (GVO) ratio. They computed the (GVA/GOV) ratio to be 46% for the United States, 40% for Japan, 45% for West Germany and 44% for the United Kingdom compared to the (GVA/GOV) ratio for China which was 33% in 1980, 31% in 1984, 29% in 1988, and 25% in 1992. However, JRZ's finding of an unusual Chinese industrial structure for China appears to be a fragile one. Specifically, JRZ's proposition which is based on Industrial Yearbook data does not hold when the 1987 Input-Output Table data are used instead. Ren Ruoen (private communication) found that the ratio of gross value added to gross output value for the industrial sector was 44% for the United States, and 42% for China when Input-Output Table data were used. (Ren adjusted China's official GVA to render it consistent with the US Industrial Census definition.) JRZ's low and declining ratios for China suggest to us under-measurement of GVA caused by the appropriation of capital income by SOE personnel - an issue that we will discuss later. The phenomenon of declining VAD also applies to the empirical works of GHMN, see Naughton (1994b).

especially given the small productivity increases under dispute," (emphasis added). While Putterman (1995) is impressed by the "robustness" of the positive findings of efficiency gains in the state sector, he too emphasizes the "widespread agreement in China at least that ... previous reforms in the sector had accomplished far too little." Similarly, Nee and Matthews (1996) have recently declared "the need to remain skeptical about overly optimistic assessments [by Jefferson, Rawski and Naughton] of the prospects for successful adaptation to a marketizing economy by large state-owned firms. The industrial heartland of Northeastern China dominated by state-owned enterprises, is following the path of the state-owned firms in the former Soviet Union."

#### The Issue of Allocative Efficiency

Even allowing for some increase in TFP, the SOE sector is widely challenged by the convergence school on two other grounds: allocative efficiency and financial performance (with consequent threats to macroeconomic stability). According to Bai, Li and Wang (BLW, 1996), TFP improvements (if any) have not increased economic welfare in China, and this is why the Chinese general public and Chinese leaders have continued to see SOE reform as a failure. BLW pointed out that TFP growth is a good index of welfare improvement only:

in the context of profit-maximizing and market-oriented firms. However, for SOEs under reform, these conditions are not satisfied (in fact, this is the very reason for SOE reform) ... One of the important non-profit objectives of the managers is their excessive pursuit of output.

In BLW's judgement, Kornai's (1992) observation that "SOE managers are embedded in a bureaucratic hierarchy, in which the size of the firm, or output level, is a proxy for status" still applies to China. Furthermore, in China where the soft-budget constraint is real, it is to the managers' advantage to make their SOEs "too big to be allowed to fail." GHMN's (1995b) finding on SOE managers compensation that "sales are significant in explaining wages over full sample period but that profits are

just insignificant" reveals the existence of incentives to Chinese managers to attach importance to the output level, as well as to profits.<sup>26</sup>

When both output and profits were included in the objective function of SOE managers, BLW found that "a higher productivity as measured by the TFP growth may actually lead to lower profitability and therefore, in many cases, lower economic efficiency." The image of some Chinese SOEs producing undesired goods, but with greater efficiency, finds some support in the aggregate data on inventories. Inventory investment in China averaged 7 percent of GDP in the 1980-93 period, compared to an average of 2 to 3 percent for the OECD countries. Only some Eastern European countries prior to 1990 had such high inventory investment rates. These high inventory levels suggest considerable production that is simply not marketable.

Even if one believes that SOE managers in China are mainly maximizing profits, technical innovations comprise only one method of maximizing an SOE's profits. It may be financially even more rewarding for an SOE manager in China to spend time developing good relations with the state bureaucracy than increasing production efficiency. Until the 1990s, the large and medium-sized SOEs had to fulfill production quota at below-market prices, and they received subsidized inputs in return. If the amount of subsidized inputs was high, the quota system would generate a positive rent to the enterprise. Li (1994) estimated that an SOE which made positive market profits on its above-quota production in the 1986-88 period received a rent that was 2.7 times that of its market profit.<sup>27</sup> Bureaucratic haggling was vastly more profitable than competing in the market! Li's rent estimate may be the lower bound because it did not include the rent that an SOE received from tax bargaining, a

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<sup>26</sup> However, GHMN also found indications that the importance of sales decreased over time while that of profits increased. Parker's (forthcoming) finding of over-usage of capital and labor in Chinese state-owned construction firms confirms that such "growth for growth sake" type of incentives did have an impact on firms' operations.

<sup>27</sup> So total profits equaled the sum of market profits plus rent.



practice so pervasive that an SOE paid an effective income tax rate of 33 percent instead of the legal rate of 55 percent then in force.

Taken together, these arguments suggest that there are likely to be serious problems of allocative efficiency within China's SOE sector which the TFP index would not measure. These allocative efficiency problems have not been adequately discussed or measured in the literature.

#### Financial Performance of the SOE Sector

There has been a steady increase in SOE losses since additional decision-making powers were given to SOE managers in the mid-1980s. The situation stabilized in the 1990-91 period when the state attempted to recover some of the decision-making power devolved to the SOEs. In 1992, decentralizing efforts accelerated at the initiative of local leaders after Deng Xiaoping called for faster economic reforms in order to avoid the fate of the Soviet Union. The unexpected event was that the faster economic growth was accompanied by larger SOE losses. About two-thirds of Chinese SOEs ran losses in 1992 when output growth in that year was 13 percent. These enterprise losses cannot be blamed on price controls because price controls covered only a small proportion of SOEs in 1992. State enterprise losses have continued to accelerate since then. In the first quarter of 1996, the SOE sector slid into the red for the first time since the establishment of the People's Republic of China in 1949, it reported a net deficit of 3.4 billion yuan.<sup>28</sup>

The literature has identified three possible factors as being responsible for the disappearing SOE profits. The first factor is the emergence of competition from the non-state enterprises,<sup>29</sup> the second factor is the failure of the SOEs to improve their efficiency despite the new profit incentives from the

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<sup>28</sup> "Record loss suffered by state sector," South China Morning Post International Weekly, June 29, 1996.

<sup>29</sup> For example, Naughton (1995) and Jefferson and Rawski (1994).

decentralizing reforms,<sup>30</sup> and the third factor is the over-compensation of SOE personnel.<sup>31</sup> The difference between the experimentalist school's explanation and the convergence school's explanation for the sharp collapse in SOE profit rates lies in the different weights that they put on each of the above three factors. The experimentalist school, as exemplified by Naughton (1995), considered only the first and second factors, and dismissed the empirical importance of the second factor on the basis of the empirical work of GHMN (1994, 1995a and 1995b) and JRZ (1992 and 1996) reviewed earlier. The convergence school, on the other hand, sees similar forces behind the mounting SOE losses during the decentralizing reforms of pre-1990 EEFSU and post-1978 China: the increasing ability of SOE insiders to appropriate the income and assets of the SOEs, and the continued inefficiency of the SOEs.

Naughton's (1995) evidence in support of competition being the only factor behind the SOEs' losses consisted of showing the sector-wide (average of SOEs and non-SOEs) rates of return to capital in different sectors of industry in 1980 and 1989. In 30 out of 38 cases, the 1989 profit rates were lower than in 1980. The main difficulty with Naughton's explanation that increased competition is driving down the profit rates is that the profit rates of SOEs in sectors of industry that experienced *little entry* by non-SOEs have shown the same dramatic drop as the profits rates of SOEs in sectors with heavy penetration by non-SOEs. Fan and Woo (forthcoming) compared the SOE profit rate and the proportion of output sold by SOEs in different sectors of industry in 1989 and 1992. In four of the five cases where the degree of SOE domination was unchanged, the profit rates were lower in 1992, e.g. the profit rate of the tobacco industry dropped 82 percentage points, and that of petroleum refining dropped 13 percentage points. The 1992 profit rates were lower in six of the seven cases where the degree of SOE domination had declined by less than five percentage points. A regression estimation of the change in SOE profit

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<sup>30</sup> An exasperated view commonly found in official Chinese statements, e.g. Vice-Premier Wu Bangguo stated that: "The situation as regards the economic efficiency of [state] enterprises has remained very grim ... And the prominent feature is the great increase in the volume and size of losses" (*The Washington Post*, "Losses of State-Owned Industries Pose Problems for China's Leaders, November 3, 1996).

<sup>31</sup> For example, Reynolds (1987) and Fan and Woo (forthcoming).

rate on the change in SOE market share yield an insignificant negative relation between the two variables and an  $R^2$  of 0.3.

The convergence school emphasizes the "spontaneous appropriation" of firm profits by managers and workers as the most important cause for the general decline in SOE profits. With the end of the central plan and the devolution of financial decision-making power to the SOEs, the key source of information to the industrial bureaux regarding the SOEs were reports submitted by the SOEs themselves. This reduction in the monitoring ability of the state in a situation of continued soft-budget constraints meant that there was little incentive for state-enterprise managers to resist wage demands because their future promotion to larger SOEs was determined in part by the increases in workers' welfare during their tenure.<sup>32</sup>

One of the earliest attributions of the erosion of SOE profits to the decentralizing reforms was a 1986 report by the China Economic System Reform Research Institute (Tigaisuo) which pointed out the emerging tendency of SOEs to over-consume and over-invest through various book-keeping subterfuges.<sup>33</sup> Woo, Hai, Jin and Fan (1994), Woo (1994), and Fan and Woo (forthcoming) used various samples and national data to show that the sum of direct income (wages and bonuses) and indirect income (e.g. subsidies, and in-kind distribution) increased more than labor productivity growth. Minami and Hondai (1995) found that the labor share of output in the machine industry started rising with the acceleration of decentralized reforms in 1985 and exceeded the estimated output elasticity since 1988. Bouin (forthcoming) calculated that the marginal product labor of industrial SOEs increased by 5 percent in 1989-93 while the product wage of industrial SOE workers rose by 7 percent. Meng and Perkins

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<sup>32</sup> This SOE tendency to over-reward workers received official acknowledgment in 1984 when the government introduced a progressive bonus tax to control the generous dispensation of bonuses that began in 1979. An annual bonus of up to 4 months of basic wages was exempted from the bonus tax; but a fifth month bonus would require the SOE to pay a 100 percent bonus tax, a sixth month bonus would be subject to a 200 percent bonus tax, a seven month bonus would be subject to a 300 percent bonus tax, and so forth.

<sup>33</sup> This report has been published in English as Reynolds (1987). Tigaisuo was disbanded when Zhao Ziyang was ousted as Party Secretary after the 1989 Tiananmen demonstrations.

(1996) studied the determinants of wage and labor demand in 149 industrial SOEs and 139 non-state firms in Guangzhou, Xiamen, Shenzhen and Shanghai (four coastal economies that are marked by more intense market competition) in the 1980-92 period. Meng and Perkins found that the SOEs were maximizing income per employee (by dipping into profits) like labor-managed firms, while non-state firms were maximizing profits like capitalist firms.

Naughton (1994b) was skeptical of the excessive compensation explanation because "the SOE wage bill, including all monetary subsidies, has remained approximately unchanged at about 5% of GNP since 1978." There are two difficulties with this point of view. The first is that the correct test for the excessive compensation hypothesis is to normalize the SOE wage bill by value-added in the SOE sector and not by economy-wide GDP. The second difficulty is that direct cash income is only a part of the total package of labor compensation, and that the main categories of direct cash compensation have been under strict state regulation in order to control inflation and embezzlement. The wage and bonus regulations have forced the SOEs to increase workers' income through indirect means like better housing, improved transportation, new recreational facilities, and study tours.<sup>34</sup>

The financial weakness of SOEs has destabilized the macroeconomy by increasing money creation through three channels. The first channel is the monetization of the growing state budget deficits caused by the declining financial contribution from the SOE sector. SOEs paid income taxes that amounted to 19.1 percent of GDP in 1978, 6.6 percent in 1985 and 1.7 percent in 1993; and they remitted gross profits of 19.1 percent, 0.5 percent and 0.1 percent respectively; World Bank (1995, Table 7.3; and 1996b, Table 23). The second channel for money creation is the financing of mounting SOE losses by

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<sup>34</sup> These indirect transfers are listed under either production costs or investment expenditure financed from depreciation funds. The ingenuity of disguising extra compensation can be quite impressive. Chen (1994) reported that "in some enterprises, [workers'] shares, with promised interest rate higher than bank deposit rates in addition to fixed dividend payment, are simply a device to raise the level of wages and bonuses which have been regulated by the government to control inflation." Qian (forthcoming) reported cases where workers' shares receive dividend but state's shares do not.

bank loans. The third channel is the disbursement of investment loans to the SOEs to make up for their shortage of internal funds to finance capacity expansion and technical upgrading.

Fan and Woo (forthcoming) have argued that the general reform strategy of decentralization is intrinsically inflationary. Decentralization necessarily worsens the principal-agent problem, and given the soft budget constraint the SOEs' appetite for investment soars because they can now, to a much larger extent, privatize the profits and socialize the losses. The local governments, in the interest of local development, inevitably lobby the local branches of the state banks to grant the SOEs' applications for investment loans. The evidence overwhelmingly show that the local bank branches have generally not been able to resist the demand for easy money.<sup>35</sup>

The "disappearing profits" at the SOEs have also contributed to social instability. In December 1995, the State Administration of State Property reported that asset-stripping in the SOE sector "has been about 50 billion yuan [annually] since the early 1980s."<sup>36</sup> This would mean that the cumulative loss of SOE assets in the 1983-1992 was equivalent to some 34 percent of the net value of fixed assets in the SOE sector in 1992. In our opinion, this steady stripping of state assets may subvert political legitimacy much more than a transparent method of privatization would.

It is notable that the original demands of the 1989 Tiananmen demonstrators were for reduction of inflation and corruption. We therefore think that the oft-given justifications for the absence of privatization in China on the grounds of preserving social stability may be overlooking the social tensions being created by the asset stripping, corruption, and macroeconomic instability caused by the

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<sup>35</sup> The institutional reforms of the central bank and the state banks implemented in July 1993 as part of an austerity campaign have not been successful in changing things. Chen Yuan (1996), Deputy Governor of the central bank, reported that "the enthusiasm for economic growth in some localities is so strong that it is very difficult to stop completely excessive investment financed through forced bank credit" (emphasis added).

<sup>36</sup> "State asset drain must end," China Daily, December 13, 1995. See also "State toughens stand to protect its possessions," China Daily, June 2, 1995; "Asset checks can stop fiddles" China Daily, June 7, 1995; "Market investigated for losing State assets," China Daily, June 2, 1995; and Wang and Li (1993).



unreformed ownership structure of the SOEs. (Of course, corruptly managed privatization, as in the case of natural resources in Russia, can also lead to profound inequities and social instability).

#### The emerging response to the SOEs

There can be little doubt that the Chinese leadership recognizes the increasingly serious economic and political problems created by the agency problem innate in the decentralizing reforms of market socialism. This is why the debate between the conservative reformers and the liberal reformers has progressed from "whether privatization is necessary" to "what is the optimal amount and optimal form of privatization." In late 1995, the most market-oriented of the conservative reformers were in favor of keeping the 4000 large industrial SOEs and 10,500 medium industrial SOEs under state ownership, and privatizing the more than 87,700 small industrial SOEs; while the most radical of the liberal reformers were in favor of the state keeping ownership of only the 1000 largest industrial SOEs. There are now 25 official property rights exchanges and about 150 unofficial property rights exchanges where state assets are sold to the public, with the latter disappearing temporarily whenever there appears to be a swing back to more orthodox socialism at the center, Fan (1995).

Recent reports indicate that full-scale sales of small and medium SOEs have occurred in several places. The best known example is Zhucheng city in Shandong province which started privatizing SOEs in 1992 when two-thirds of its SOEs were losing money or just breaking even.<sup>37</sup> Almost ninety percent of county-supervised SOEs in Zhucheng have already been privatized. Sichuan province has been steadily selling off money-losing SOEs, and Guangdong province has been selling profitable SOEs as well in order to finance local infrastructure and clear the debts of unprofitable SOEs to prepare them for

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<sup>37</sup> "China City Turns Into a Prototype for Privatization," Wall Street Journal, June 10, 1995.

sale. Heilongjiang province has just announced plans to privatize 200 SOEs after having sold 160 successfully.<sup>38</sup>

The acceleration in SOEs' conversion to joint-stock companies reflects the leadership's opinion that partial privatization through public offering in the stock markets and through joint ventures with foreign companies would be an improvement over the contract responsibility system. The important point about partial privatization is that the movement of the stock price of the firm is a publicly available indicator of the firm's relative performance. The existence of this objective indicator limits the supervising agency's ability to impose non-economic objectives on the firm, and places more pressure on the supervising agency to monitor the returns to state assets.

As is clear from the above, China has not been an exception to absorbing the positive international experience with privatization of SOEs. However, it is a serious concern of the Chinese Communist Party that more explicit and larger-scale privatization under its leadership may undermine its political legitimacy. The likely outcome of this political concern is that privatization would continue under the protection of a terminological haze.

#### IV. RURAL REFORMS

Rural reforms have included fundamental changes in agriculture -- the reversion to household farming after the dissolution of the commune system -- as well as deep changes in non-agricultural rural sectors, especially the rise of the TVEs. Without question, the quality of rural life has improved markedly under these reforms. Agricultural productivity rose sharply after 1978, and non-agricultural production in the TVEs has soared. Nonetheless, there are serious debates about the extent and adequacy of the rural reforms, and the future prospects for the rural sector. We turn first to agriculture, and then to the TVE sector.

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<sup>38</sup> "Heilongjiang puts 200 firms on the block," *China Daily*, June 7, 1996.

## Agriculture

Agriculture is another quintessential case of partial reform. On the one hand, the end of the commune system led to significant gains in efficiency and individual freedom in the countryside. On the other hand, the reforms stopped well short of true private ownership of farm land. Here we review some of the consequences of partial reform.

The 1978 agriculture reforms temporarily reversed the 1949-78 trend of urban consumption per capita rising relative to rural consumption per capita. Per capita consumption in the rural areas doubled in real terms between 1977 and 1983. However, the rapid increase in rural income was temporary. In 1985, urban consumption resumed its faster increase vis-a-vis rural consumption. By 1995, the urban-rural ratio of per capita consumption of around 3-to-1 was slightly above the pre-reform ratios of 1978. The initial decrease and subsequent widening of the urban-rural consumption gap mirrors well the jump in agriculture yield (kilo per hectare) growth after 1978, followed by relative stagnation after 1985, as shown in Table 7.

The data suggest that the impressive agricultural growth in the early years of the agriculture reform was a one-shot improvement in productivity that followed the liberalization of the agricultural sector and the introduction of the household responsibility system for land tenure. A simple extrapolation exercise indicates that the big achievement of the 1978 agricultural was to return rice and wheat yields to their underlying trends that were suppressed by the stringent collectivist agriculture practices of the 1958-1977 era (collectivization speeded up in 1956 and culminated in the disastrous Great Leap Forward of 1958).<sup>39</sup>

Three factors have contributed importantly to the agriculture slowdown after 1985. The first factor is farmers' uncertainty about future land use rights. Despite the 1984 government decision that

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<sup>39</sup> Specifically, the 1982-91 yield levels for rice and wheat lie on the straight lines extrapolated from the 1952 yield levels using the yield growth rates of the 1952-57 period.

farmers could get leases up to fifteen years, Prosterman, Hanstad and Li (1996) found in their field work that:

local officials have not implemented this policy to any significant degree... [In] many villages, representatives from the collective take back all the land in the village every three to six years and reallocate the plots [to adjust for changes in household size]

The result is that farmers have refrained from making the many small long-term improvements (e.g. digging wells and small feeder drains, applying more organic fertilizer) in the land that would have increased grain yield.<sup>40</sup>

Johnson (1994) pointed out that some of the government's policy responses to the post-1985 slowdown have increased farmers' concerns about land security, and hence reduced farmers' work efforts and investments in the land. For example, the government announced in late 1990 that some farming operations, like plowing, fertilizing and harvesting, would be re-collectivized in order to reap economies of scale from mechanization. The problem with this action according a knowledgeable official was that:

The peasants' misgiving that the contract responsibility system based on households.. would be abolished has never been dispelled... Because of such misunderstandings, when they heard about developing the collective economy and improving dual operations, they took it as abolishing the household contract system. (Johnson, 1994, pp. 11)<sup>41</sup>

The second important factor for agriculture stagnation is that state procurement prices after the early 1980s have not been raised in line with the increases in input prices. The government has been reluctant to increase procurement prices because urban retail grain prices usually lagged behind procurement prices, creating large budgetary subsidies for food. In fact, when the state decided to clamp down on inflation in late 1993, grain procurement quotas were re-introduced and price controls were put on 27 agricultural commodities. Worse yet, whenever credit was tightened to fight inflation (1985, 1989

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<sup>40</sup> To us, this finding of widespread uncertainty about future land use rights explains the long time puzzle why rural land markets in China have been surprisingly inactive despite the legality of lease transfers. For another case-study, see "No Rights Mean No Incentive for China's Farmers," New York Times, December 15, 1996.

<sup>41</sup> Johnson (1994) also concluded that there were no significant economies of scale in Chinese agriculture, and he interpreted the true aim of the 1990 policy to be the strengthening of "the power and influence of the local cadres."

and 1992), the government would pay for part of its grain procurement with coupons (IOUs) instead of cash. With such adverse relative price trends after 1984 (when prices of industrial products accelerated), the flagging of growth in grain production is understandable.

A third factor contributing to the post-1985 slowdown in agricultural productivity growth has been the large reductions in state investment in agricultural infrastructure (e.g. irrigation works) in the years after 1979. The level of real investment in agricultural infrastructure in 1994, for example, was only 58 percent of the 1979 level. It appears however, that in many rural areas, the decline of state investment in agricultural infrastructure was accompanied by a reduction in state efforts to develop human resources. The World Bank (1992) reported that:

In urban areas, schools benefit from a much greater local revenue base and from categorical grants from the provincial or national government. Rural primary schools, however must rely almost entirely on local community support... Health services are the weakest component of the rural safety net... Available evidence does document a significant erosion of township and village level health infrastructure and personnel after 1975.

Lower health and education levels in the rural areas would ultimately be deleterious to agriculture growth.

In summary, it appears that China's agriculture sector is under duress because of incomplete deregulation, incomplete privatization, and unequal social policies. The stagnation of the rural sector could be a source of future political instability, as evidenced by the rural unrest in 1992 and 1993.<sup>42</sup> Unless agriculture growth is greatly increased, it is likely that rural-urban migration will accelerate, adding to the 100-150 million rural-urban migrants that already constitute China's so-called "floating population."

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<sup>42</sup> See Far Eastern Economic Review ("Now the Peasant Revolt: Get Off Our Backs"), 15 July 1993; and Japan Economic Newswire ("Beijing Abolishes 37 Rural Taxes"), 21 June 1993.



### The Township and Village Enterprises

In rural areas, non-agricultural enterprise growth has been dominated by TVEs. The TVEs have expanded at a remarkable rate, with the share in total employment in China rising from 7 percent in 1978, to 11 percent in 1984, and then to 21 percent in 1995. Since 1987, the TVEs have been allowed to participate directly in international trade - rather than just indirectly as sub-contractors to state trading companies and SOEs - and the result was a dramatic increase in TVE exports. The share of overall exports accounted for by TVEs has risen from 9.2 percent in 1986 to more than 40 percent in 1996.<sup>43</sup>

The TVEs represent a unique Chinese institutional form, in that rural industry is owned -- at least formally -- by the local government or collectively by members of a village. The TVEs are non-state enterprises in the sense that they operate entirely outside of the state plan, and with rather hard budget constraints (receiving almost no subsidies from the state budget, or state banks, and only rarely from local government). At least formally, they are not private enterprises, however, since they lack clear private owners.

Without question, the local governments have viewed the TVEs as an important potential source of revenues for local budgets, Oi (1992). In the early 1980s, the central government introduced explicit tax farming, a system of fiscal contracts where the central government negotiated a revenue quota with each province. This fiscal contract arrangement is replicated at each level of government down to the township level. This revision in fiscal relations makes the local governments (and/or local residents later) the residual claimants of income generated by any firms established by them at the local level. "As a result, local governments use every method possible, including many which straddle the boundaries of legality, to promote rural industry, at the same time milking it to supplement their government budgets" (Zweig, 1991).

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<sup>43</sup> "China: The money and the muck," The Economist, November 16, 1996.

As in other areas of China's reform, the success of TVEs has generated an intense debate. The experimentalist school views them as an important and highly successful institutional innovation, melding market incentives with public ownership. The convergence school, by contrast, views them as a partially successful half-way house to real private ownership. While the experimentalist school emphasizes the special fit of the TVEs with China's undeveloped economic conditions, the convergence school emphasizes serious problems ahead unless China now moves to real privatization of the TVEs.

The foundation for collective-owned rural industrial enterprises was laid during the decade-long Cultural Revolution when the official emphasis on self-reliance and the breakdown of the national distribution system caused the rural communes to expand their non-agricultural activities. These non-agricultural activities were grouped into production units now called TVEs as the commune system began to dissolve in 1979. The concern for rural underemployment and local development has led to steady liberalization of the rules governing the formation of TVEs; and, since 1984, the terms of approval and supervision of TVEs have varied greatly across regions.

There are three main types of TVEs. The first type is known as the Jiangsu Model because of its concentration in Wuxi, Suzhou and Changzhou, three cities in southern Jiangsu province. The local authorities in Jiangsu exercised tight controls over the TVEs (e.g. participating in production and investment decisions, and regulating wages and labor mobility across TVEs), and protected their TVEs by limiting the number of partnerships and individual firms that could be set up.

The second type of TVE form is known as the Zhejiang Model. The local governments in Zhejiang province, although a significant shareholder in many TVEs, normally refrain from intervening in the production, dividend and personnel decisions of the TVEs, provided that the enterprise makes an annual contribution to the village funds. The Zhejiang TVEs resemble leased companies, with the difference that their managers could be removed by the local officials.

The third TVE form is true private enterprises masquerading as TVEs. In this case, the entire capital of the enterprise is from an individual or a small group, and the enterprise pays a fee to the local

authority in order to be allowed to register itself as a TVE, a charade that is popularly referred to as "wearing the red cap". The main reasons for the desire to disguise the true ownership are lower tax rates, easier approval procedures, less restrictions on the size and operations of the enterprise, and shelter against possible reversal in the political fortunes of the reformers.<sup>44</sup>

Until the 1990s, the Jiangsu Model was considered the best TVE form because it was closest in its adherence to traditional socialist concepts.<sup>45</sup> However, like the traditional SOEs, the Jiangsu-type TVEs have run into financial problems, and the result was that:

In the second half of ... [1992], Wuxi, Suzhou and Changzhou transferred the operation rights of some deficit ridden small-scale State or publicly-owned enterprises to private businessmen through rental or auction sales.<sup>46</sup>

Given the varieties of TVEs, the vagueness about their ownership and control, and their evolving nature, it is therefore natural that different authors have emphasized different "basic" characteristics of the TVEs, often without acknowledging their great diversity over time and space. For example, Nee (1996) regards TVEs as informal joint ventures between the state and the private sector, often with "extensive informal privatization of collective-owned assets and firms," whereas Walder (1995a) views TVEs as "under a form of public ownership no different from the large urban state sector." Peng (1992) emphasizes the "semi-private" nature of TVEs to explain their operational autonomy, while Oi (1995) accents a state-centered view in which TVEs are the production units in "a large multi-level corporation" managed by the county-township-village hierarchy.<sup>47</sup>

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<sup>44</sup> It is commonly believed that the number of "red-capped" private enterprises is greater than the number of registered private enterprises. A 1993 survey found that in one county in Hebei province where there were "at least 1000 private businesses, the official number was eight." ("Enterprises shake protection cover," *China Daily*, March 31, 1995)

<sup>45</sup> "Stuck in an ideological morass," *China Daily*, June 2, 1993.

<sup>46</sup> "Successfully combining socialist market theories," *China Daily*, December 15, 1993.

<sup>47</sup> According to Oi, the county government was corporate headquarters, the township governments were regional headquarters, and the villages were companies.

The terminological haze has thickened in the 1990s with the additional easing of restrictions on the registration of firms as TVEs, making the co-existence of true TVEs and red-capped private enterprises a common phenomenon in many places, as stressed by Ronnas (1993). To distinguish between them in a politically-neutral manner, some Chinese researchers have taken to referring to them as "collective TVEs" and "non-collective TVEs" respectively, with the latter being an obvious oxymoron.

#### Explaining the Ownership Form, Fast Growth, and Higher Efficiency

The TVE ownership structure is highly unusual by international standards. In most East Asian countries with rural industry, such as Indonesia and Thailand, ownership of small enterprises is private, often within a family. By contrast, TVE ownership is collective, at least officially. Some scholars have argued that collective ownership reflects deep Chinese cultural patterns, Weitzman and Xu (1994). However, this "cooperative culture" hypothesis would appear to be called into question by the dominance of small private enterprises in rural Taiwan, as well as by the prevalence of small, Chinese-owned private firms throughout East Asia. If there is any cultural affinity regarding small business, it would seem to be for private, family-owned businesses rather than collectively owned businesses.

Other scholars have said that collective ownership is an effective way to raise capital funds for rural enterprise and to reduce the principal-agent problem by shortening the supervision distance, Oi (1995) and Walder (1995a). The experimentalist school has used these reasons to interpret the TVE ownership structure as a good adaptation to market failures caused by China's underdeveloped markets for factors of production. According to Naughton (1994a):

Banks are ill-equipped in the early stages of transition to process small-scale lending applications and assess risks. Local government ownership in China played a crucial role in financial intermediation. Local governments could better assess the risks of start-up businesses under their control ... and serve as guarantors of loans to individual TVEs.

Some members of the experimentalist school have even interpreted the TVE record as definitive proof against the conventional wisdom that private ownership is the natural ownership form of small-scale enterprises, and argued that what mattered for efficiency is not ownership but competition in product and factor markets, Nolan (1993).

Advocates of institutional convergence are skeptical of the experimentalist school's functionalistic explanation of TVE ownership form, especially of its emphasis on the state's superiority in financial intermediation. Taiwan's small and medium private enterprises exhibited dynamic growth in the 1960-1985 period even though they were heavily discriminated against by the wholly state-owned banking system. The informal financial markets (curb markets) appeared "spontaneously" to cater to their needs, Shea and Yang (1994). The power of market forces (when tolerated by the local authorities) to induce financial institutional innovations was also recently seen in Wenzhou city in Zhejiang Province when economic liberalization began in 1979. Liu (1992) reported that:

Ninety-five per cent of the total capital needed by the local private sector has been supplied by "underground" private financial organizations, such as money clubs, specialized financial households and money shops ...

Small private enterprises have flourished throughout East Asia, as well as in the transition economies of Eastern Europe. In Poland, for example, the number of small businesses grew from 700,000 in 1989 (the eve of Poland's radical reforms) to 1,800,000 in 1993, Sachs (1993). In 1993, both the Polish small, *privately owned* businesses and the Chinese TVEs employed around 20 percent of the labor force, with one difference being that Poland achieved most of this employment transformation in just four years compared to fifteen years in China.

In the view of the convergence approach, an adequate general theory for TVE ownership structure should be based on two main considerations. First, private ownership was basically prohibited in many areas until recently. Therefore, collective ownership of rural industry arose as the primary response to the profitable niches created by central planning because other forms of ownership were

discriminated against, if not, prohibited. Zhang (1993), using the euphemism of "non-collective TVEs" for red-capped private enterprises, reported that:

in virtually all aspects relating to local governments, the non-collective TVEs tend to be unfavorably treated .. [compared to] their collective counterparts. Areas in which local governments appear to have discriminated against non-collective TVEs include access to bank credits, to larger production premises, to government allocation of inputs and energy, to government assistance in solving technical problems and for initiating joint ventures and so forth. In the field of taxation and profit distribution, there is evidence that non-collective TVEs run a greater risk of being excessively levied, and that local governments tend to treat the non-collective TVEs more arbitrarily than do the collective ones.

In short, according to the convergence school, the "market failures" identified by the experimentalist school are not caused by inefficiencies intrinsic to a private market economy (like externalities and public goods). These so-called market failures are actually created by ideologically-motivated constraints imposed by the state. Specifically, the banks have extended more loans to TVEs than to private enterprises because of state directives, and not because of the TVEs being intrinsically more efficient or because of the local banks' recognition that the local governments were better assessors of risks than themselves, Chang and Wang (1994).<sup>48</sup>

The second basic consideration for a general TVE theory is that the collective ownership of TVEs initially reflected the low labor mobility in the countryside, which resulted largely from the household registration system that tied the peasants to the land. Community ownership was plausible when community members expected to remain in the same place indefinitely, and there was also no complicating factor of inward migration into rural areas.

There is general assent that the TVEs face stronger market incentives (including harder budget constraints) than do the SOEs. The Jiangsu and Zhejiang types of TVEs are fairly similar in essence to the red-capped private enterprises. The local officials have the private incentive to maximize the profits

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<sup>48</sup> Che and Qian (1996) and Li (1996) attribute the mushrooming of TVEs relative to private enterprises, despite their insecure, unambiguous property rights, to the need to buy protection and cooperation from the local governments. TVEs are created by the lack of commitment by the state to fully accept and protect private property and private contracts, and to provide the institutions that will promote the growth of private businesses.

of TVEs because "the careers and salaries of officials at ..[the county, township and village] levels are directly affected by the performance and growth of their rural enterprises" (Oi, 1995), and because neither local residents nor workers have legal, formal channels to exercise their ownership rights. In short, informal privatization by local officials has reduced the principal-agent problem and rendered the TVEs more efficient than the SOEs.<sup>49</sup> This private-incentive (informal privatization) hypothesis would explain why Peng (1992) found that the wage determination process was the same for rural public enterprises and rural private enterprises.

If this interpretation of "informal privatization" is valid, then continued TVE efficiency is possible only if the group cohesion of local officials does not degenerate into individual efforts at asset-stripping. We see the key to the group cohesion seen in Jiangsu and Shandong in the 1980s to be the heavy discrimination against private enterprises in these regions. The resulting lack of economic space in these regions to hide looted assets diminished the incentive for individual officials to rob the TVEs they oversaw. Without the strong legal discrimination against private property, asset-stripping would have occurred more freely, and the inefficiency normally observed with informal privatization would have become more prevalent.<sup>50</sup>

If this view is correct, the crucial implication is that gradual growth in the relative size of the private sector will eventually undermine the group cohesion among local officials against individual asset-stripping (by providing secured hiding places for looted property), and thereby damage TVE performance.

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<sup>49</sup> Although Walder (1995a) does not accept the "private incentive" hypothesis, he acknowledges its plausibility: "It has sometimes been documented, and is even more widely suspected, that significant numbers of village-run, and perhaps even township-run enterprises are in effect operated as family business, in which there is no clear distinction between officials' income and village revenue. This can occur when village officials grant rights to operate public industrial assets to themselves or family members or other partners on contracts that give them fixed percentage of the enterprises' profits after contractual payments to the government are made. This may also occur through embezzlement and the abuse of expensive accounts ... Unfortunately there are no reliable estimates of how widespread such "hidden privatization" is ..."

<sup>50</sup> Given the observational equivalence between informal privatization and localized socialism, Walder (1995a, pp. 294) opted for the latter because he thought that corruption was incompatible with the manifest efficiency of the TVEs.

Beside the less severe principal-agent problems of TVEs, there are three other reasons why TVEs have been more efficient than SOEs. The first is that TVEs face harder budget constraints because their owners (the local governments) cannot print money, or automatically turn to state banks for bailouts. In the 1990 economic downturn, the number of industrial TVEs fell from 7.7 million in 1988 to 7.2 million in 1990 while the number of industrial SOEs increased from 99 thousand to 104 thousand. The second reason is that TVEs have much more operational flexibility and fewer social welfare functions to distract the managers. TVEs can hire and fire freely, and they do not need to provide extensive social services like housing and pension to their workers. The third reason is that TVEs can implement institutional innovations without the approval of the central government. Recent locally-initiated transformation of TVEs into "share-holding cooperatives" shows this feature very well, and this feature has enabled the TVEs to move closer to best international practices in corporate governance.

#### Future Prospects of the TVEs

Many analysts of both the experimental and convergence schools foresee a diminished role of TVEs in the future. Naughton (1994a) thinks that the development of asset and factor markets will obviate the need for state intervention and make TVEs "less important in the future." Putterman (1995) is pessimistic about the future of the TVEs because he views global and Chinese political trends as (unjustifiably) favoring private enterprises.<sup>51</sup> Most convergence school advocates simply believe that it would be better for China to move from the half-way house of collective ownership to the next step of real private ownership of small rural enterprises.

Advocates of expanded private ownership see four basic problems with the TVEs. The first, and most obvious, is that collective ownership invites political interventions by the local government in the

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<sup>51</sup> The "failure of the Soviet model, the no more experiments attitude that has followed that failure throughout the ex-Communist world, collapse of Communism as a world movement, rapid private economy growth in neighboring countries, and burgeoning consumerism and the priority attached to economic goals in China, make long-term commitment to the socialist market concept appear doubtful," (Putterman, 1995, pp. 1061-2)



workings of local enterprises, to the detriment of efficiency and fairness.<sup>52</sup> These kinds of adverse interventions have a long history in China. The China historian John Fairbank even claimed that local bureaucratic intervention in rural industries was a major reason why China did not develop a vigorous market economy in past centuries. It is worthwhile to quote Fairbank at length on this point:

In feudal Europe the merchant class developed in the towns. Since the landed ruling class were settled in their manors upon the land, the European towns could grow up outside the feudal system instead of being integrated in it. Medieval burghers gained their independence by having a separate habitat in these new towns, and new political authority to protect them, in the persons of the kings of nation-states. In China, these conditions were lacking. The early abolition of feudalism and the dependence of the emperor and his officials upon the local gentry left no political power outside the established order to which the merchant could turn for special protection...Between them, the gentry and officials saw to it that the merchants remained under control and contributed to their coffers instead of setting up a separate economy. (Fairbank, 1992, pp. 180-81)

The second problem with collective ownership is that it defeats risk diversification. When a community puts its wealth only into the narrow range of enterprises in the community, its residents can end up losing everything - their jobs and their savings. The worker is better off investing in financial assets unrelated to the workplace and locality.

A third problem is that collective ownership limits the scale of operations of the enterprise. Currently, a TVE can grow as a result of new investments by the community (including reinvestment of profits) or through bank loans. It is difficult, however, to get outsiders to invest in the TVE, since the property rights of the outside investors would not be well defined or well protected.

The fourth problem is that collective ownership limits the market for managerial control. Suppose that a rural entrepreneur has a good idea for a new enterprise. In a normal market economy, he might be able to raise his own money to start the business, or would be able to purchase an existing

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<sup>52</sup> There are now a growing number stories in the official press about the negative interventions of local officials. For example, *China Daily*, February 18, 1994, reported: "But ambiguous ownership or property rights in the collective economy coupled with the long standing integration of government administration and enterprises management [have] led to some problems. Among these were incidences where some local officials embezzled or diverted collective enterprise funds or properties to other purposes, and the rights of enterprises or employees were repeatedly infringed upon" ("Rural firms set 3rd reform wave"). Analyzing a 1990 sample of rural firms, Cheng (1996) found that collective-owned firms were less efficient than private firms and quasi-private firms.

business. Both of these options are currently difficult in China, because of the heavy bias towards collective ownership. Conversely, suppose that an existing enterprise has a bad manager, but one that is favored for political reasons by the local government. In a normal market setting, an outside buyer might approach the owners of the business and make a takeover bid, replacing the manager after buying the enterprise. This is unlikely with the collective ownership of the TVEs.

In addition to these problems with the TVE ownership form, a recent development has greatly increased the pressure on the TVEs to "clarify" their property rights. The output expansion of many coastal TVEs in southern China has forced them to rely increasingly on migrant labor from the poorer provinces. The original inhabitants in these richer provinces want to prevent the new residents from having an automatic share in the dividends of the collective-owned enterprises, and so some areas have converted the collective TVEs into "shareholding cooperatives" by corporatising the TVEs and dividing the shares among themselves. The fact that the government has not clamped down on these de-collectivization of TVEs has been viewed as implicit approval, and this has accelerated the conversion of TVEs to shareholding cooperatives.

With the further reduction in discrimination against private ownership since early 1992 to ameliorate the rural unemployment caused by the 1989-91 austerity policies, many TVEs have been taking off their "red hats" - albeit with difficulties in many cases:

As China heads toward a market economy, an increasing number of private companies are no longer feeling the need to register as "red cap," or collectively-owned ventures ... [because the] difference in preferential treatment between private and public units has been narrowed ... But there is a problem. The collective units are now arguing that private firms could not have developed without their help. As the so-called "owners" of the companies, the State firms usually ask for high compensation for the "divorce" or ask the companies to merge with them. ("Private firms jump to take 'red caps' off," China Daily, November 4, 1994.)

## V. CONCLUSIONS AND FUTURE PROSPECTS

We have examined China's economic development in the context of the debate between the experimentalist school and the convergence school to present the different interpretations. In many

cases, the choice of interpretation rests on one's judgement on the plausibility of the particular "exceptionalism" claimed by one school or the other. The experimentalist school sees China's exceptionalism in a series of innovative institutions marrying market reforms with continued state ownership. The convergence school sees China's exceptionalism in China's economic structure, which according to the convergence school has allowed rapid growth *despite* the absence of many key institutions of private property.

These two broad interpretations of China's growth have vastly different implications for future reforms in China and elsewhere. The experimentalist school expects that China will continue to liberalize and innovate in a tentative, incremental manner because in order to minimize the cost of any single policy experiment going awry. By contrast, the convergence school would expect China to continue to move closer to the institutions of China's capitalist neighbors in East Asia. As partial reforms lead to "contradictions" in the economy (such as continued losses in the SOEs, or stagnation in agricultural productivity), events will prompt China to deepen the reforms and "normalize" its institutions.

Perhaps the best test of the two approaches is whether China's policy choices are in fact leading to institutions harmonized with normal market economies or to more distinctive innovations. In our view, the recent trend, quite strongly, has been towards harmonization rather than innovation. In our understanding, this trend towards harmonization is the result of internal pressures as well as explicit external pressures towards harmonization, such as China's quest to join the World Trade Organization.

The year 1994, in particular, was a period of rapid reform. In January 1994, China ended its unusual dual currency system (of Renminbi and Foreign Exchange Certificates) by unifying the exchange rate. By 1996, this had culminated in the effective convertibility of the yuan for current account purposes. Also in 1994, China began a major overhaul of its tax system. Tax farming (revenue contracts with provincial governments and SOEs) was replaced by setting up central government tax offices in the counties, introducing an enterprise income tax that is (more) uniform across enterprise

types, and relying increasingly on the value-added tax for revenue. In summer 1994, China issued its first set of company laws. Special policy banks were set up to enable the existing state banks to move to lending that was based entirely on commercial principles. What became very clear over the year was the tolerance of the central government toward the conversion of TVEs into share-holding cooperatives and the removal of red caps by pseudo-TVEs.

By mid-1995, the phrase of "holding on to large SOEs and freeing the small SOEs" had the concrete meaning of transferring some 90,000 small industrial SOEs to the non-state sector by sales, leases, or mergers. In short, full privatization, and not merely partial privatization (known euphemistically as diversification of ownership, which is offering of a small portion of the SOE's equities on the stock market), has begun in China. The government also extended the maximum period for leases on farm lands to 30 years, up from 15 years. The first private bank opened at the end of 1995.

China committed itself at the 1995 APEC summit meeting in Osaka to reduce its average tariff rate by a third in 1996. This step toward tariff convergence, as part of China's bid membership in the World Trade Organization (WTO), was completed by August 1996. China's innovation of a dual stock market where a firm offered A-shares to Chinese citizens and B-shares to foreigners was effectively ended in mid-1996 when the restrictions against purchase of B-shares by Chinese citizens were relaxed.

All of the above changes are instances of China harmonizing its economic institutions to those of its capitalist neighbors and trading partners, rather of China experimenting to create institutions with "Chinese characteristics". These post-1993 institutions in China are the results of China studying and adopting market institutions that have proven to be beneficial in foreign settings, and not mainly the results of China having invented new institutions through internal experience. The policy trends, it seems to us, represent a growing acknowledgment by the Chinese government that decentralizing reforms alone will not work, and that China requires deeper integration into world markets on internationally accepted terms, as well as a much clearer set of private-property institutions.

The partial character of China's reforms have left many deep problems to be faced in the coming years. While there is no doubt that there would be many great challenges in any case, we view many of the key problems to be the counterparts of incomplete reforms. While China's state enterprise sector is too small to drag down the non-state sector, it still imposes large financial and allocational costs on the economy, and, perhaps worst of all, it acts as a drag on reforms in other key sectors. For example, in 1994, the state banks were ordered to operate according to normal commercial principles, with the understanding that they would no longer be directed to extend cheap "policy loans" to SOEs. However, when SOE net losses deepened in early 1996, the state banks were ordered in mid-1996 "to satisfy the funding demands of the large and medium-sized State enterprises."<sup>53</sup>

Another partial reform that has generated significant social costs has been the granting of trade privileges to a restricted set of coastal regions, thereby discriminating against the inland provinces. This discrimination against the inland provinces combined with the inherent geographical advantages of the coastal regions in participating in international trade, has contributed to the massive migration of labor from inland provinces to the burgeoning coastal economies. The growing income gap between coastal and inland provinces, documented in Jian, Sachs, and Warner (1996), has raised demands by the inland provinces for compensatory policies from the center. As a result, the Chinese government is examining the extension of trading and tax privileges to the interior regions.

Similarly, China's underdeveloped legal system will be more of a drag on the economy as the complexity of economic life increases, unless legal reform -- especially regarding private property rights -- can keep pace with economic growth. Continuing corruption and misuse of state assets will further undermine the public support for the existing political institutions. In the 1995 ranking by Transparency International of the seriousness of corruption within 41 countries, China ranked second in the extent of

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<sup>53</sup> "Central bank urges support for faltering enterprises," China Daily, July 8, 1996.

corruption. Such problems will play out against a backdrop of continuing serious pressures on the state budget, arising from low tax revenues and financial losses of the state-owned enterprises.

The general point is that partial reform not only postpones confrontation with the most difficult problems, but also generates new tensions. So far, China has moved adroitly in the face of such tensions to modify institutions and to push ahead with market reforms. The success of economic growth in the past 15 years is a testimony to those efforts, admired by both the experimentalist and convergence schools of analysis. Both schools of thought would also agree that the challenges of continued reform, and the stakes for more than 20 percent of humanity, are very great.

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Table 1: The Evolution of Reform Objective

<i>Period</i>	<i>Desired Endpoint Upon Completion of Reform</i>
Pre-1979	A planned economy under the law of exchange value.
1979 to October 1984	A planned economy supplemented by market regulations.
October 1984 to October 1987	A planned commodity economy.
October 1987 to June 1989	An economy where the state regulates the market and the market regulates the enterprises.
June 1989 to 1991	An economy with organic integration of planned economy and market regulations.
1992 to present	A socialist market economy with Chinese characteristics.

Table 2: Summary of Key Differences

	<i>Experimentalist School</i>	<i>Convergence School</i>
Desirable speed of reform in a transition economy	Sequential trial-and-error	Rapid and comprehensive liberalization, and commitment to making private ownership the overwhelmingly dominant ownership form
Actual speed of reform in China	Sequential trial-and-error	Mixed radical and gradual reform. Radical liberalization of agriculture, and of international trade in coastal provinces. Slow deregulation of SOEs, and of international trade in interior provinces; and gradual clarification of ownership rights. Hesitant privatization of SOEs
Reasons for gradualism (incrementalism)	Economic experimentation	Political compromise; ideological commitment to state ownership
Sources of rapid growth	Unintended virtuous cycle, and little dislocations from large shifts in policies	Existence of surplus agriculture labor; East Asia pattern of labor-intensive export-led growth
Outcomes in the SOEs	Substantial improvements in production efficiency	Little technical progress; and over-compensation of SOE personnel and over-investment that weaken the fiscal situation
Interpretation of the TVEs	Adaptations to China's economic conditions of still-developing markets	Continuing legal restrictions on private ownership, with deleterious consequences for long-term development
Future directions and pace of reform	Policies will change to reflect evolution in material conditions and lessons from continuing experiments	Policies will push China toward a normal private market economy with characteristics similar to other East Asian economies

Table 3: Compound Growth Rate by Sector, and by Ownership in the Industrial Sector  
(in percent)

	<i>Growth in 1979-93</i>	<i>Growth in 1979-84</i>	<i>Growth in 1985-93</i>
primary sector	5.2	7.3	3.8
industrial SOEs	5.8	6.8	5.2
industrial COEs	18.1	15.5	19.8
individual-owned industrial enterprises	na	na	73.4
other ownership forms of industrial enterprises	na	na	49.4
construction sector	10.6	10.2	10.9
tertiary sector	10.0	10.8	9.4
Memo Item: industrial non-SOEs	21.2	16.4	24.5

(Calculated from series that have been consistently re-based on 1990 prices.)

na = growth rates for 1979-84 and 1979-93 for industrial enterprises that are individually-owned or of "other ownership form" cannot be calculated because their output levels in 1978 were zero.

Table 4: Share of Contribution to GDP Growth Rate by Sector, and by Ownership in the Industrial Sector  
(in percentage points, each column sums to 100)

	<i>Growth in 1979-93</i>	<i>Growth in 1979-84</i>	<i>Growth in 1985-93</i>
primary sector	16.5	31.8	11.6
industrial SOEs	13.8	20.3	11.7
industrial COEs	25.0	12.8	28.9
individual-owned industrial enterprises	5.9	0.2	7.7
other ownership forms of industrial enterprises	6.9	0.8	8.9
construction sector	5.7	5.2	5.9
tertiary sector	26.2	28.9	25.3
TOTAL	100.0	100.0	100.0

(Calculated from series that have been consistently re-based on 1990 prices.)

Even though growth rates for 1979-84 and 1979-93 for industrial enterprises that are individually-owned or of "other ownership form" cannot be calculated because their output levels in 1978 were zero, their proportional contribution to the growth rates of these periods can be computed. The reason is that a sector's share of the aggregate growth rate is the same as its share of the increase in output level.



Table 5: Share of TVEs in Total Exports

	<i>Total Export, billions of yuan</i>	<i>TVEs' export as share of Total Export, %</i>	<i>Total Export as share of GDP, %</i>
1987	147	10.9	12
1988	177	15.3	13
1989	196	18.9	12
1990	299	16.4	17
1991	383	17.5	19
1992	468	25.4	19
1993	529	44.4	17
1994	1042	32.6	23

Note: The TVE export data are measured in yuan, while total export data are measured in dollars and converted using the official exchange rates. TVE's share of exports before 1994 is hence overstated because of the multiple exchange rate system in effect to the end of 1993. If we use the swap exchange rate to convert total export earnings to yuan, then the TVE share in 1987 (when the swap rate had a 40 percent premium over the official rate) is 7.8 percent - making the subsequent TVE export growth even more spectacular. Total export would then be 17 percent of GDP in 1987.

Table 6: Distribution of Employment by Type of Organization (% of total employment)

	<i>CHINA</i>			<i>RUSSIA</i>	
	<i>1978</i>	<i>1984</i>	<i>1991</i>	<i>1985</i>	<i>1991</i>
State enterprise	18.6	17.9	18.3	93.1	86.1
Collective agriculture	72.0	67.0	63.9	6.0	5.3
Urban collective	5.1	6.7	6.2	na	na
Industrial TVEs	4.3	7.6	10.0	na	na
Private and other	0.0	0.8	1.6	0.9	8.6

(From Sachs and Woo, 1994)

Table 7: Trend Growth Rate of Yield (percent per annum)

<i>Period</i>	<i>All Grains</i>	<i>Rice</i>	<i>Wheat</i>
1966-77	3.1	1.4	4.4
1978-84	5.7	5.1	8.0
1985-94	2.0	1.3	1.9

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